

DENISE M. AKOB

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EDUCATION

- Ph.D.** Department of Oceanography, 2008
Florida State University, Tallahassee, Florida.
Advisor: Dr. Joel E. Kostka
- B.A.** Biology, St. Mary's College of Maryland, 2002

PROFESSIONAL EXPERIENCE

Research Microbiologist, U.S. Geological Survey, National Research Program (Water),
Microbiology and Molecular Ecology Laboratory. 2012-current.

Postdoctoral Research Fellow, Friedrich-Schiller University Jena, Institute of Ecology, Aquatic
Geomicrobiology. 2010-2012

Marie Curie Postdoctoral Research Fellow, Friedrich-Schiller University Jena, Institute of
Ecology, Aquatic Geomicrobiology. 2008-2010

Research Assistantship, Florida State University. Department of Energy Environmental
Remediation Sciences Program. 2004-2008

Guest Scientist, Friedrich-Schiller University Jena. Graduate School for Alteration and Element
Mobility at the Microbe-Mineral Interface. 2007

Teaching Assistantship, Florida State University (Biological Science I Laboratory and Animal
Diversity Laboratory). 2002-2004

NSF-REU Internship, Carnegie Institution of Washington Geophysical Laboratory with Dr. Marilyn
L. Fogel, Dr. Matthew Wooller and Dr. Ilka C. Feller. 2002

Teaching Assistant, St. Mary's College of Maryland (Principles of Biology I and Tropical Marine
Biology). 1999-2002

Lab Maintenance Assistant, St. Mary's College of Maryland Coral Reef Wet Lab. 2000-2001

Lab Assistant, Maryland Dept. of Natural Resources, Piney Point Aquaculture Center. 2001

Field Assistant, St. Mary's River Project, St. Mary's College of Maryland. 2000-2001

NSF-REU Internship, University of Delaware College of Marine Studies with Dr. Ilka C. Feller and
Dr. S. Craig Cary. 2001

NSF-REU Internship Smithsonian Environmental Research Center with Dr. Ilka C. Feller. 2000

RESEARCH INTERESTS

Microbial Ecology ♦ Environmental Microbiology ♦ Bioremediation ♦ Biogeochemistry ♦ Bioenergy

PUBLICATIONS

1. **Akob, D.M.**, A. Mumford, W. H. Orem, M. Engle, J.G. Klings, D. B. Kent and I. M. Cozzarelli. Wastewater Disposal from Unconventional Oil and Gas Development Degrades Stream Quality at a West Virginia Injection Facility. *Environmental Science and Technology*, 50 (11): 5517–5525 (DOI: 10.1021/acs.est.6b00428) (IP-075053).
2. Kassotis, C.D., L.R. Iwanowicz, **D.M. Akob**, I.M. Cozzarelli, A.C. Mumford, W.H. Orem, and S.C. Nagel. 2016. Endocrine Disrupting Activities of Surface Water Associated with a West Virginia Oil and Gas Industry Wastewater Disposal Site. *Science of the Total Environment*, 557–558: 901–910, doi:10.1016/j.scitotenv.2016.03.113 (IP-074246).
3. **Akob, D. M.**, Sumy, D., Hermes, J., and Horsfall, F. 2016. CAREER PROFILES: Options and Insights. *Oceanography* 29(1): 106-110.
4. Bohu, T., **D.M. Akob**, M. Abratis, C.S. Lazar, and K. Küsel. 2016. Biological low pH Mn(II) oxidation in a manganese deposit influenced by acidic heavy metal-rich groundwater. *Applied and Environmental Microbiology*, 82 (10): 3009 –3021 (IP-073478).
5. Fabisch, M., G. Freyer, C. A. Johnson, G. Büchel, **D. M. Akob**, T. R. Neu, and K. Küsel. 2016. Dominance of '*Gallionella capsiferriformans*' and heavy metal association with *Gallionella*-like stalks in metal-rich pH 6 mine water discharge. *Geobiology*, 14: 68–90 (IP-066911).
6. Bohu, T., C. Santelli, **D. M. Akob**, T. R. Neu, V. Ciobota, P. Rösch, J. Popp, S. Nietzsche, and K. Küsel. 2015. Characterization of pH dependent Mn(II) oxidation strategies and acidic pH bixbyite formation by *Mesorhizobium australicum* T-G1. *Frontiers in Microbiology*, 6: e734. (IP-066249).
7. **Akob, D. M.**, I. M. Cozzarelli, D. S. Dunlap, E. L. Rowan and M. M. Lorah. 2015. Organic and Inorganic Composition and Microbiology of Produced Waters from Pennsylvania Shale Gas Wells. *Applied Geochemistry*, 60:116-125 (IP-061928).
8. Ritter, D., J. C. McIntosh, D. Vinson, E. Barnhart, **D. M. Akob**, M. Fields, A. Cunningham, W. Orem. 2015. Enhanced Microbial Coalbed Methane Generation: A Review of Potential and Limitations. *International Journal of Coal Geology*, 146: 28–41 (IP-065234).
9. Herrmann, M., A. Rusznyák, **D. M. Akob**, I. Schulze, S. Opitz, K.-U. Totsche, and K. Küsel. 2015. Large fractions of CO₂-fixing microorganisms in pristine limestone aquifers appear to be involved in the oxidation of reduced sulfur and nitrogen compounds. *Applied and Environmental Microbiology*, 81(7): 2384-2394 (IP-061930).
10. Beulig, F., V. B. Heuer, **D. M. Akob**, B. Viehweger, M. Elvert, M. Herrmann, K.-U. Hinrichs, and K. Küsel. 2015. Carbon flow from volcanic CO₂ into soil microbial communities of a wetland mofette. *The ISME Journal* 9(3): 746-59 (IP-057849).
11. **Akob, D. M.**, T. Bo Hu, A. Beyer, F. Schäffner, M. Händel, D. Merten, G. Büchel, K.-U. Totsche, and K. Küsel. 2014. Identification of Mn(II)-oxidizing bacteria from a low pH contaminated former uranium mine. *Applied and Environmental Microbiology*, 80(16): 5086-5097 (IP-057091).
12. Fabisch, M., F. Beulig, **D. M. Akob**, and K. Küsel. 2013. Surprising abundance of *Gallionella*-related iron oxidizers in creek sediments at pH 4.4 or at high heavy metal concentrations. *Frontiers in Terrestrial Microbiology*, 4: 390 (IP-052860).

13. Keiner, R., A. Rusznyak, **D. M. Akob**, S. Hanf, K. Küsel, J. Popp, and T. Frosch. 2013. Raman spectroscopy – an innovative and versatile tool to follow the respiratory activity and carbonate biomineralization of important cave bacteria. *Analytical Chemistry*, 85(18): 8708–8714.
14. Risse-Buhl, U., M. Herrmann, **D. M. Akob**, P. Geesink, N. Pizani, W. Schönborn, K.-U. Totsche and K. Küsel. 2013. Phagotrophic protist diversity in the groundwater of a karstified aquifer - morphological and molecular analysis. *Journal of Eukaryotic Microbiology*, 60(5): 467–479.
15. Gray, S. M., **D. M. Akob**, S. J. Green, and J. E. Kostka. 2012. The predictability of bacterial composition within the *Sarracenia purpurea* model system: local scale differences and relationships with the other members of the food web. *PLoS One* 7(12): e50969.
16. **Akob, D. M.***, S. H. Lee*, M. Sheth, K. Küsel, D. B. Watson, A. V. Palumbo, J. E. Kostka, and K.-J. Chin. 2012. Gene expression correlates with process rates quantified for sulfate- and Fe(III)-reducing bacteria in U(VI)-contaminated sediments. *Frontiers in Terrestrial Microbiology* 3:280. *Equal contribution
17. Rusznyák, A., **D. M. Akob**, S. Nietzsche, K. Eusterhues, K. U. Totsche, T. R. Neu, T. Frosch, J. Popp, R. Keiner, J. Geletneky, L. Katzschatmann, E.-D. Schulze, and K. Küsel. 2012. Calcite biomineralization by bacterial isolates from the recently discovered pristine karstic Herrenberg Cave. *Applied and Environmental Microbiology* 78(4): 1157–1167.
18. **Akob, D. M.** and K. Küsel. 2011. Where microorganisms meet rocks in the Earth's Critical Zone. *Biogeosciences* 8: 3531–3543.
19. **Akob, D. M.**, L. Kerkhof, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2011. Linking specific heterotrophic bacterial populations to bioreduction of uranium and nitrate using stable isotope probing in contaminated subsurface sediments. *Applied and Environmental Microbiology* 77(22): 8197–8200.
20. Burkhardt, E.-M., S. Bischoff, **D. M. Akob**, G. Büchel, and K. Küsel. 2011. Heavy metal tolerance of Fe(III)-reducing microbial communities in a contaminated creek bank soil. *Applied and Environmental Microbiology* 77(9): 3132–3136.
21. Lu, S., S. Gischkat, M. Reiche, **D. M. Akob**, K. B. Hallberg, and K. Küsel. 2010. Ecophysiology of Fe-cycling Bacteria in Acidic Sediments. *Applied and Environmental Microbiology* 76 (24): 8174–8183.
22. Vishnivetskaya, T. A., C. C. Brandt, A. S. Madden, M. S. Drake, J. E. Kostka, **D. M. Akob**, K. Küsel, and A. V. Palumbo. 2010. Microbial Community Changes in Response to Ethanol or Methanol Amendments for U(VI) Reduction. *Applied and Environmental Microbiology* 76(17): 5728–5735.
23. Sitte, J., **D. M. Akob**, C. Kaufmann, K. Finster, D. Banerjee, E.-M. Burkhardt, J. E. Kostka, A. Scheinost, G. Büchel and K. Küsel. 2010. Microbial Links between Sulfate Reduction and Metal Retention in Uranium and Heavy Metal-contaminated Soil. *Applied and Environmental Microbiology* 76(10): 3143–3152.
24. Green, S. J., O. Prakash, T. M. Gihring, **D. M. Akob**, P. Jasrotia, P. M. Jardine, D. B. Watson, S. D. Brown, A. V. Palumbo and J. E. Kostka. 2010. Denitrifying bacteria from the terrestrial subsurface exposed to mixed waste contamination. *Applied and Environmental Microbiology* 76(10): 3244–3254.
25. Burkhardt, E.-M., **D. M. Akob**, S. Bischoff, J. Sitte, J. E. Kostka, D. Banerjee, A. C. Scheinost, K. Küsel. 2010. Impact of Biostimulated Redox Processes on Metal Dynamics in an Iron-rich Creek Soil of a former Uranium Mining Area. *Environmental Science & Technology* 44(1): 177–183.

26. Prakash, O., T. M. Gehrung, D. D. Dalton, K.-J. Chin, S. J. Green, **D. M. Akob**, G. Wanger, and J. E. Kostka. 2010. *Geobacter daltonii* sp. nov., an iron(III)- and uranium(VI)-reducing bacterium isolated from the shallow subsurface exposed to mixed heavy metal and hydrocarbon contamination. International Journal of Systematic and Evolutionary Microbiology 60(3): 546-553.
27. **Akob, D. M.**, H. J. Mills, T. M. Gehrung, L. Kerkhof, J. W. Stucki, A. S. Anastacio, K.-J. Chin, K. Küsel, A. V. Palumbo, D. B. Watson, and J. E. Kostka. 2008. Functional Diversity and Electron Donor Dependence of Microbial Populations Capable of U(VI) Reduction in Radionuclide-Contaminated Subsurface Sediments. Applied and Environmental Microbiology 74(10): 3159-3170.
28. Blöthe, M., **D. M. Akob**, K. Walter, J.E. Kostka, H. L. Drake, and K. Küsel. 2008. Heterogeneity of Fe(III)-reducing microorganisms in coal-mining lake sediments caused by a pH gradient. Applied and Environmental Microbiology 74(4): 1019-1029.
29. **Akob, D. M.**, H. J. Mills, & J. E. Kostka. 2007. Metabolically active microbial communities in uranium-contaminated subsurface sediments. FEMS Microbiology Ecology 59:95-107.
30. Diaz, M. C., **D. Akob**, & C. S. Cary. 2004. Denaturing gradient gel electrophoresis of nitrifying microbes associated with tropical sponges. Proceedings of the 6th International Sponge Conference, Rapallo, Italy, 2002. Bollettino dei Musei e degli Istituti biologici dell'Università di Genova 68: 279-289.

MANUSCRIPTS SUBMITTED OR IN PREPARATION

Hädrich, A., M. Taillefert, **D. M. Akob**, U. Litzba, F. E. Wagner, S. Nietzsche, V. Ciobota, P. Rösch, J. Popp, and K. Küsel. Microbial Fe(II) oxidation by *Sideroxydans lithotrophicus* strain ES-1 in the presence of humic acids. FEMS Microbiology Ecology, in prep.

Akob, D. M., A. C. Mumford and D. S. Dunlap. Chapter 12. Phylogenetic Techniques in Geomicrobiology. *Analytical Geomicrobiology: A Handbook of Instrumental Techniques*. D. Alessi, H. Veeramani, J. Kenney, eds. Cambridge University Press, submitted to the editors 10 April 2015.

Orem, W., M. Varonka, L. Crosby, K. Haase, K. Loftin, M. Hladik, **D. M. Akob**, C. Tat, A. Mumford, J. Jaeschke, A. Bates, T. Schell, and I.M. Cozzarelli. Organic Geochemistry and Toxicology of a Stream Impacted by Unconventional Oil and Gas Wastewater Disposal Operations. Applied Geochemistry, in prep.

Fahrenfeld, N.L., H. Delos Reyes, A. Eramo, **D. M. Akob**, I.M. Cozzarelli, and A. Mumford. Shifts in microbial resistance mechanisms in surface waters impacted by unconventional oil and gas wastewaters, FEMS Microbiology Ecology, submitted 17 February 2016 (FEMSEC-16-02-0100).

Lazar, C.S., W. Stoll, R. Lehmann, M. Herrmann, V. Schwab, **D. M. Akob**, A. Nawaz, T. Wubet, F. Buscot, K.-U. Totsche, and K. Küsel. Ecophysiology of uncultured Archaea in groundwater and carbonate rocks. The ISME Journal, submitted 06 June 2016 (ISMEJ-16-00675OA).

Ouyang, B., **D. M. Akob**, D. S. Dunlap, and D. Renock. Microbially-mediate barite dissolution in anoxic brines. Applied Geochemistry, submitted 20 April 2016 (APGEO-D-16-00178).

Shelton, J. L., **D. M. Akob**, J. C. McIntosh, N. Fierer, J. R. Spear, P. D. Warwick, J. E. McCray. Salinity and well location drive differences in microbial community structure across a methanogenic gradient. Frontiers in Microbiology, submitted 25 May 2016 (Manuscript ID: 211261).

RESEARCH GRANTS

NASA Research Opportunities in Space and Earth Science (ROSES-2013), Astrobiology: Exobiology and Evolutionary Biology Program Element. Title: Light Hydrocarbon Metabolism as a Basis For Microbial Life and its Detection in Oxygen-Free Settings: Mars and the Planet(Oids) of the Outer Solar System. 3/7/14- 3/6/17, \$570,681, (Co-I).

Joint Genome Institute Community Sequencing Program. Title: Heavy Metal Immobilization at Moderately Acidic pH by New Fe(II)- and Mn(II)-Oxidizing Bacteria. 2011 (PI)

European Science Foundation: The Functionality of Iron Minerals in Environmental Processes (FIMIN) Short Visit Grant. Title: Fe(III)-complexes and the iron cycle in slightly acidic environments. 2010 (PI).

Sigma Xi Grants-in-Aid of Research. Subject: Ecology. Title: The role of epibiont sponges and their microbial symbionts in the nutrient limited *Rhizophora mangle* stands. Institution: St. Mary's College of Maryland. 2001

Caribbean Coral Reef Ecosystem Grant. National Museum of Natural History, Smithsonian Institution. Title: The role of epibiont sponges and their microbial symbionts in the nutrient limited *Rhizophora mangle* stands. 2001

PROFESSIONAL SOCIETIES

American Society for Microbiology (ASM), USA ♦ German Association for General and Applied Microbiology (VAAM), Germany ♦ European Geosciences Union (EGU) ♦ Geological Society of Washington ♦ Geological Society of America (GSA), USA ♦ Geochemical Society ♦ European Association of Geochemistry (EAG)

PROFESSIONAL ACTIVITIES

- Affiliated Professor, Department of Geography and Planning, Appalachian State University, 2016-current.
- Editorial Board Member, FEMS Microbiology Ecology, 2016-present.
- Geobiology Theme Chair, Goldschmidt 2015 25th Anniversary Meeting
- Co-Chair for Session T50. Microbial Hydrocarbon Formation and Biodegradation: Organisms, Pathways, Environmental Limitations, and Isotope Signatures, 2015 Geological Society of America Annual Meeting, Baltimore, MD
- NRP-EB Weekly Science Series, co-organizer (2013-present)
- Affiliated Professor, Environmental Science and Policy Department at George Mason University, 2013-current.
- US DOE Joint Genome Institute workshop on Microbial Genomics and Metagenomics, May 5-9, 2014
- Manuscript Reviewer (2009-present) for: Applied and Environmental Microbiology ♦ Environmental, Science, and Technology ♦ Biogeosciences ♦ FEMS Microbiology Ecology ♦ FEMS Microbiology Ecology Letters ♦ Biodegradation ♦ Geomicrobiology Journal ♦ PLoS ONE ♦ Soil Research

- Mote Marine Laboratory course on Diseases of Corals and Other Reef Organisms, 2003

PROFESSIONAL AWARDS AND HONORS

USGS Performance Award	2015
USGS Water Mission Area Lecturer	2015
USGS Certificate of Recognition "Ambassador of Science"	2015
USGS Performance Award	2014
USGS STAR Employee Award (NRP)	2014
USGS STAR Employee Award (NRP)	2013
Student Travel Fellowship, 3 rd Annual ERSP Spring PI Meeting, Lansdowne, VA	2008
Student Travel Fellowship, 2 nd Annual ERSP Spring PI Meeting, Lansdowne, VA	2007
Student Travel Fellowship, ERSP Fall PI Meeting, Oak Ridge, TN	2006
Student Travel Fellowship, 1 st Annual ERSP Spring PI Meeting, Warrenton, VA	2005
Student Travel Fellowship, NABIR PI Meeting, Warrenton, VA	2005
First Place Award, Poster Presentation, Marine Benthic Ecology Meeting	2003
Dean's List Spring Semester, St. Mary's College of Maryland	2002
Academic Excellence, Multicultural Affairs, St. Mary's College of Maryland	2002
First Place Award, Poster Presentation, AGU Ocean Sciences Meeting	2002
Rho Gamma Chapter Beta Beta Beta, National Biological Honors Society	2001

MEETING ABSTRACTS

1. Shelton, J.L., J.C. McIntosh, **D.M. Akob**, J.E. Spear, P.D. Warwick, J.R. McCray. 2016. Hydrobiogeochemical controls on a low-carbon emitting energy extraction mechanism: exploring methanogenic crude oil biodegradation. European Geosciences Union (EGU) General Assembly 2016, 17-22 April 2016, Vienna, Austria (Poster).
2. Haase, K.B., A.C. Mumford, **D.M. Akob**, M.D. Kozar, I.M. Cozarrelli, W.E. Sanford. 2015. Towards Measuring and Interpreting Trace Light Hydrocarbons in Surface Water and Groundwater. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Poster).
3. Mumford, A.C., K. Maloney, **D.M. Akob**, I.M. Cozzarelli. 2015. A Comprehensive Assessment of Three High-Quality Headwater Streams in the Chesapeake Bay Watershed. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Poster).
4. Klings, J.G. A.C. Mumford, **D.M. Akob**, I.M. Cozzarelli. 2015. Influences of Typical Hydraulic Fracturing Fluid Constituents on the Structure and Activity of Iron Reducing Microbial Communities. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Poster).
5. Lorah, M.M., **D.M. Akob**, D. Dunlap, J. Teunis. 2015. Culture Testing For A Dual-Biofilm Reactive Barrier For Treatment Of Chlorinated Benzenes In Wetland Groundwater And

- Sediment. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Oral).
6. Mumford, A.C., A. Fraser, J. G. Klings, **D. M. Akob**, I. M. Cozzarelli. 2015. Impact off Unconventional Gas Waste Water Disposal on the Structure and Activity of Surficial Stream Microbial Communities. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Oral).
 7. Shelton, J.L., J. C. McIntosh, **D.M. Akob**, P.D. Warwick, J.E. McCray. 2015. Linking Microbial Community Presence and Diversity to Formation Water Geochemistry, Crude Oil Biodegradation, and Methanogenesis. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Oral).
 8. Cozzarelli, I. M., K. Skalak, D. Kent, A. Mumford, A. Benthem, K. Haase, W.H. Orem, J. Galloway, M. Engle, and **D. M. Akob**. 2015. Geochemical Investigations of Wastewater Leaks and Spills Related to Unconventional Oil and Gas Development. Geological Society of America Annual Meeting, November 1-4, 2015. Baltimore, MD USA (Oral).
 9. **Akob, D. M.** 2015. Keynote: Influence of Subsurface Microbial Communities on Unconventional Natural Gas Development. Goldschmidt 2015, Prague Czech Republic, August 16-21, 2015 (Oral, Keynote).
 10. **Akob, D.M.**, Bohu, T., Santelli, C., Johnson, C., & Küsel, K. 2015. Surprises from the Microbial World: Bacterial Mn-Oxidation at Low pH. Goldschmidt 2015, Prague Czech Republic, August 16-21, 2015 (Invited, Oral).
 11. Ouyang, B, **Akob, D.**, Dunlap, D. & Renock, D. 2015. Microbially-Mediated Barite Dissolution in Anoxic Brines. Goldschmidt 2015, Prague Czech Republic, August 16-21, 2015 (Poster)
 12. Cozzarelli, I.M., **D.M. Akob**, M.J. Baedecker, T. Spencer, and M. Harrington. 2015. Stability of *cis*- and *trans*-MCHM (4-methylcyclohexanemethanol) in laboratory microcosms. Water Workshop: Fostering Advances In Water Resource Protection And Crisis Communication, Lessons Learned From Recent Disasters, May 27-29, 2015, Shepherdstown, WV. (Poster)
 13. **Akob, D.M.**, I.M. Cozzarelli, M.J. Baedecker, T. Spencer, J. Jaeschke, D. Dunlap, and A. Mumford. 2015. Anaerobic Microbial Degradation of MCHM (4-methylcyclohexanemethanol) in Sediments from Elk River, West Virginia. Water Workshop: Fostering Advances In Water Resource Protection And Crisis Communication, Lessons Learned From Recent Disasters, May 27-29, 2015, Shepherdstown, WV. (Poster)
 14. Delos Reyes, H., A. Eramo, N. Fahrenfeld, A. Mumford, **D. M. Akob**, I. M. Cozzarelli. 2015. Do Biocides in Wastewater from Energy Resource Development Select for Antimicrobial-Resistant Bacteria? Third International Symposium on Bioremediation and Sustainable Environmental Technologies (Miami, Florida; May 18-21, 2015). (Oral).
 15. Mumford, A. C., A. Fraser, J. G. Klings, **D. M. Akob**, I. M. Cozzarelli. 2015. Impact of Unconventional Gas Waste Water Disposal on Surficial Stream Microbiology. GSA Northeastern Section 50th Annual Meeting (23–25 March 2015), Bretton Woods, NH. (Oral)
 16. Klings, J. G., Mumford, A. C., **D. M. Akob**. 2015. Influence of Organic Hydraulic Fracturing Fluid Additives on the Activity of Iron-Reducing Bacteria in a Produced Water Impacted Stream. GSA Northeastern Section 50th Annual Meeting (23–25 March 2015), Bretton Woods, NH. (Poster).
 17. Shelton, J.L., **Akob, D.M.**, McIntosh, J.C., McCray, J.E. 2015. Impacts of microbial community diversity on the occurrence and quantity of crude oil biodegradation and

- microbial methanogenesis. American Chemical Society Spring 2014 National Meeting, March 22-26, 2015, Denver, CO (Oral).
18. Cozzarelli, I., **D. M. Akob**, and A. Mumford. 2014. Impact of Unconventional Shale Gas Waste Water Disposal on Surficial Streams. 2014 AGU Fall Meeting, December 15-19, 2014, San Francisco, CA. (Oral, invited talk).
 19. Dunlap, D.S., M. S. Varonka, W. H. Orem, and **D. M. Akob**. 2014. Microbial population shifts after enhancement of coal bed methanogenesis. American Society for Microbiology Virginia Branch 2014 Annual Meeting, November 7-8, 2014, James Madison University. (Oral)
 20. **Akob, D. M.**, B. A. Bekins, I. M. Cozzarelli, and E. Warren. 2014. Similarity in Subsurface Microbial Community Dynamics at Two Crude Oil Spill Sites. Ninth International Symposium on Subsurface Microbiology, October 5-9, 2014, Pacific Grove, CA. (Poster, presented by E. Warren)
 21. **Akob, D.M.**, Dunlap, D.S., Varonka, M.S., and Orem, W.H. 2014. Evaluation of Organic Compounds for Enhancing Microbial Coal Bed Methanogenesis. Goldschmidt 2014, June 8-13, 2014, Sacramento, CA. (Oral)
 22. Cozzarelli, I.M., **Akob, D.M.**, Dunlap, D.S., Rowan, E.L., and Lorah, M.M. 2013. Organic Composition and Microbiology of Produced Waters from Pennsylvania Shale Gas Wells. Goldschmidt 2014, June 8-13, 2014, Sacramento, CA. (Oral)
 23. **Akob, D.M.**, Vinson, D.S., Dunlap, D.S., McIntosh, J.C., Orem, W.H. and Blair, N.E. 2014 Coal biodegradation pathways: Evidence from $\delta^{13}\text{C}$ of acetate. Goldschmidt 2014, June 8-13, 2014, Sacramento, CA. (Poster)
 24. **Akob, D.M.**, Cozzarelli, I.M., and Rowan, E.L. 2013. Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. Facing the Challenges: Research on Shale Gas Extraction Symposium, November 25-26, 2013. Pittsburgh, PA USA. (Poster)
 25. **Akob, D.M.**, Cozzarelli, I.M., and Rowan, E.L. 2013. Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. Geological Society of America Annual Meeting, October 27-20, 2013. Denver, CO USA. (Oral)
 26. **Akob, D.M.**, E. Burkhardt, J. Sitte, and K. Küsel. 2013. Mobilization of heavy metals and uranium linked to biostimulation of microbial Fe(III) reduction in contaminated creek soils. Geological Society of America Annual Meeting, October 27-20, 2013. Denver, CO USA. (Oral, invited)
 27. Schäffner, F., D. Merten, G. De Guidici, S. Linzen, **D. M. Akob**, K. Küsel, and G. Büchel. 2013. Natural attenuation of heavy metals in near-surface supergene Mn-oxides at a former uranium mining site, Germany. Abstracts Remediation Symposium, September 26-27, 2013, Jena, Germany.
 28. Küsel, K., M. Herrmann, A. Rusznyak, **D. Akob**, U. Risse-Buhl, S. Opitz, & K.-U. Totsche. 2013. Depth-dependent links between surface and subsurface as reflected by microbial community structures in limestone aquifers. Goldschmidt 2013 Conference, Florence, Italy. (Oral)
 29. Beulig, F., **D. M. Akob**, V. Heuer, M. Elvert, B. Viehweger, K.-U Hinrichs, and K. Küsel. 2013. Carbon flow from volcanic CO₂ into soil microbial communities of a wetland mofette. Goldschmidt 2013 Conference, Florence, Italy. (Oral)
 30. Herrmann, M., S. Opitz, A. Rusznyak, I. Schulze, **D. Akob**, K.-U. Totsche and K. Küsel. 2013. Elucidation of microbial communities involved in CO₂ fixation in karstic limestone aquifers targeting RubisCO- and ammonia-monooxygenase encoding genes. Annual

Conference of the Association for General and Applied Microbiology (VAAM), Bremen, Germany. (Oral)

31. Beulig, F., V. Heuer, **D. M. Akob**, M. Elvert, B. Viehweger, K.-U Hinrichs, and K. Küsel. 2013. Cold volcanic CO₂ emanations in a wetland area promote *Acidobacteria*, acetogens and methanogens. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bremen, Germany. (Oral)
32. **Akob, D. M.**, A. Beyer, F. Schäffner, M. Händel, T. Bohu, Carol Johnson, D. Merten, G. Büchel, K.U. Totsche, and K. Küsel. 2012. Linking Mn(II)-oxidizing bacteria to natural attenuation at a former U mining site. EGU General Assembly, Vienna, Austria, *Invited poster*.
33. Schäffner, F. D. Merten, G. De Guidici, A. Beyer, **D. M. Akob**, P. C. Ricci, K. Küsel, G. Büchel. 2012. Formation of secondary minerals in a lysimeter approach: A mineral-microbe interaction. EGU General Assembly, Vienna, Austria, *Invited poster*.
34. Schulze, I., A. Rusznyak, S. Opitz, M. Herrmann, **D. M. Akob**, K. U. Totsche, K. Küsel. 2011. AquaDiv@Jena: Diversity of autotrophic groundwater bacteria present in shallow aquifers in the Hainich (Thuringia, Germany). 8th International Symposium of Subsurface Microbiology, Garmisch-Partenkirchen, Germany.
35. Rusznyak, A., **D. M. Akob**, S. Nietzche, T. Neu, K. Eusterhues, K.-U. Totsche, T. Frosch, R. Keiner, and Küsel, K. 2011. Carbonate biomineralization - role of bacteria in the Herrenberg karstic Cave. 8th International Symposium of Subsurface Microbiology, Garmisch-Partenkirchen, Germany.
36. **Akob, D. M.**, A. Beyer, F. Schäffner, M. Händel, D. Merten, G. Büchel, K. U. Totsche, and K. Küsel. 2011. Biogenic Mn oxide formation at pH 5.5 and 7 by new Mn-oxidizing bacteria from a former U mining site. Goldschmidt 2011 Conference, Prague, Czech Republic. (Oral)
37. Fabisch, M., F. Beulig, **D. M. Akob**, and K. Küsel. 2011. New *Thiomonas* and *Bordetella* Strains Involved in Iron Oxidation at a Slightly Acidic, Heavy Metal Contaminated Creek. Goldschmidt 2011 Conference, Prague, Czech Republic. (Oral)
38. Risse-Buhl, U., **D. M. Akob**, M. Herrmann, P. Geesink, N. Pizani, W. Schönborn, and K. Küsel. 2011. Polyphasic characterization of protist diversity in the subsurface of a Thuringian aquifer. European Congress of Protistology, July 25-29, 2011. Berlin, Germany.
39. Rusznyak, A., **D. M. Akob**, S. Nietzche, T. Neu, K. Eusterhues, K.-U. Totsche, T. Frosch, R. Keiner, and Küsel, K. 2011. Carbonate biomineralization - role of bacteria in the Herrenberg karstic Cave. Annual Conference of the Association for General and Applied Microbiology (VAAM), Karlsruhe, Germany.
40. Beulig, F., **D. Akob**, M. Fabisch, and K. Küsel. 2010. Microbial Communities Involved in Iron Oxidation at a Heavy Metal Contaminated Creek. Abstracts Remediation Symposium, October 4-5, 2010, Jena, Germany.
41. Beyer, A., F. Schäffner, M. Händel, D. Merten, **D. Akob**, and K. Küsel. 2010. Formation of Mn-oxides by new Mn(II)-oxidizing bacterial isolates. Abstracts Remediation Symposium, October 4-5, 2010, Jena, Germany.
42. Schäffner, F., M. Händel, A. Beyer, D. Merten, K. Pollok, **D. Akob**, F. Langenhorst, K. Küsel, and G. Büchel. 2010. Characterization of secondary mineral encrustations in a former uranium mining district using mineralogical and biogeochemical methods. Abstracts Remediation Symposium, October 4-5, 2010, Jena, Germany.
43. Green, S. J., P. Jasrotia, D. Hubbard, O. Prakash, T. M. Gehrung, **D. M. Akob**, P. M. Jardine, D. B. Watson, S. D. Brown, A. V. Palumbo, and W. J. Sul, J. Tiedje, and J. E.

- Kostka. 2010. Current Molecular Methods that Target Denitrification Genes Do Not Detect Key Denitrifying Taxa. International Society for Microbial Ecology Symposium, Seattle, WA USA. (Oral)
44. **Akob, D. M.**, M. Fabisch, E.-M. Burkhardt, J. Sitte, S. Bischoff, and K. Küsel. 2010 Natural attenuation of heavy metals in groundwater by iron-cycling bacteria at a mining-impacted site. Goldschmidt 2010 Conference, Knoxville, TN USA. (Oral)
45. Küsel, K., A. Rusznyak, **D. M. Akob**, S. Nietzche, T. Neu, and K. Eusterhues. 2010. Diversity hidden in the dark – microbial communities involved in carbonate mineralization in the Blessberg Cave, Germany. Goldschmidt 2010 Conference, Knoxville, TN USA. (Oral)
46. Overholt, W. A., S. J. Green, O. Prakash, T. M. Gehrke, **D. M. Akob**, P. Jasrotia, P. M. Jardine, D. B. Watson, S. D. Brown, A. V. Palumbo, W. J. Sul, J. Tiedje, S. Brooks, J. E. Kostka. 2010. Denitrifying bacteria from the Genus Rhodanobacter are key members of microbial communities in the acidic, uranium-contaminated subsurface at Oak Ridge, TN. 110th General Meeting Abstracts American Society for Microbiology, San Diego, CA.
47. **Akob, D.**, E.-M. Burkhardt, S. Bischoff, J. Sitte, and K. Küsel. 2009. Linking microbial community structure to heavy metal mobility in geochemical barriers at the Gessenbach. Abstracts Remediation Symposium, September 28-29, 2009, Jena, Germany. (Oral)
48. Fabisch, M., G. Freyer, A. Fischer, **D. Akob**, and K. Küsel. 2009. Microbial Iron Oxidation in Heavy Metal Contaminated Creek Sediments. - Abstracts Remediation Symposium, September 28-29, 2009, Jena, Germany. (Oral)
49. Küsel, K., **D. M. Akob**, E.-M. Burkhardt, M. Fabisch, and S. Bischoff. 2009. Identification of the Active Iron Cycling Bacteria controlling the Dynamics of Heavy Metals and Radionuclides. Gordon Research Conference: Applied & Environmental Microbiology, July 12-17, South Hadley, MA. (Oral)
50. **Akob, D. M.**, E.-M. Burkhardt, J. Sitte, L. Kerkhof, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2009. Identification of active microbial communities linked to bioremediation and natural attenuation of radionuclides and heavy metals in contaminated aquifers. Goldschmidt 2009 Conference, Davos, Switzerland. (Oral)
51. Burkhardt, E.-M., S. Bischoff, **D. M. Akob**, J. E. Kostka, and K. Küsel. 2009, Mobilization of toxic metals linked to microbial Fe(III)-reduction in contaminated creek soils. Goldschmidt 2009 Conference, Davos, Switzerland. (Oral)
52. **Akob, D. M.**, S. Bischoff, S. Rothhardt, E.-M. Burkhardt, J. Sitte, and K. Küsel. 2009. Characterization of Iron Cycling Bacteria Controlling the Mobility of Heavy Metals in Contaminated Creek Soil. 109th General Meeting Abstracts American Society for Microbiology, Philadelphia, PA. (Poster)
53. Lee, S. H., **D. M. Akob**, J. E. Kostka, K-J. Chin. 2009. Metabolically Active Prokaryotes in Uranium(VI)-Contaminated *in situ* Subsurface Sediments. 109th General Meeting Abstracts American Society for Microbiology, Philadelphia, PA.
54. Green, S. J., **D. M. Akob**, W. Jun Sul, J. Tiedje, and J. E. Kostka. 2009. Combined Geochemical and Pyrosequencing Community Analysis of a Uranium-contaminated Subsurface Sediment Profile. 109th General Meeting Abstracts American Society for Microbiology, Philadelphia, PA.
55. Sitte, J., **D. Akob**, C. Kaufmann, K. Pollok, K. Finster, J. Kostka, F. Langenhorst, and K. Küsel. 2009. Activity and Identification of Sulfate Reducing Prokaryotes in Heavy Metal and Radionuclide Contaminated Creek Soil. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bochum, Germany.

56. Burkhardt, E.-M., **D. M. Akob**, S. Bischoff, J. E. Kostka, and K. Küsel. 2009. Analysis of Fe(III)-reducing microbial communities which cause metal mobilization in contaminated creek soils. Annual Conference of the Association for General and Applied Microbiology (VAAM), Bochum, Germany.
57. **Akob, D. M.**, K.-J. Chin, L. Kerkhof, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2008. Targeting the Metabolically Active Iron(III)- and Sulfate-Reducing Bacteria with a High Potential for U(VI) Bioimmobilization in Contaminated Subsurface Sediments. DOE 3rd Annual ERSP Spring PI Meeting, Lansdowne, VA.
58. Kostka, J. E., H. J. Mills, **D. M. Akob**, O. Prakash, D. Swofford, L. Kerkhof, K.-J. Chin, M. Keller, J. Elkins, and J. W. Stucki. 2008. Structure and Function of Subsurface Microbial Communities Affecting Radionuclide Transport and Bioimmobilization. DOE 3rd Annual ERSP Spring PI Meeting, Lansdowne, VA.
59. **Akob, D. M.**, L. Kerkhof, K-J. Chin, K. Küsel, D. B. Watson, A. V. Palumbo, and J. E. Kostka. 2008. Characterization of the Metabolically Active Iron(III)- and Sulfate-Reducing Bacteria in Uranium(VI) Contaminated Subsurface Sediments Using DNA-SIP Analysis. 108th General Meeting Abstracts American Society for Microbiology, Boston, MA.
60. Ewald, E.-M., **D. M. Akob**, J. E. Kostka, J. Sitte, and K. Küsel. 2008. Effect of Iron Reduction on Heavy Metal Mobilization. 108th General Meeting Abstracts American Society for Microbiology, Boston, MA.
61. Lee, S., **D. M. Akob**, J. E. Kostka, and K-J. Chin. 2008. Quantification of Functional Gene Expression of Sulfate- and Iron(III)-Reducing Bacteria and Phylogenetic Analysis of Metabolically Active Bacteria in Uranium(VI)-Contaminated Subsurface Sediments. 108th General Meeting Abstracts American Society for Microbiology, Boston, MA.
62. Mills, H. J., M. Humphrys, **D. Akob**, T.M. Gihring, J. Delgadio, K.J. Chin, and J.E. Kostka. 2008. Quantification of Functional Gene Expression of Fe(III) and Sulfate Reducing Prokaryotes in Salt Marsh Sediments. ASLO Ocean Sciences Meeting, March 2008.
63. Kostka, J.E., H. J. Mills, M. Humphrys, **D. Akob**, and K. Chin. 2007. Metabolically Active Iron- and Sulfate-Reducing Prokaryotes in Shallow Subsurface Sediments. International Workshop on Microbial Life under Extreme Energy Limitations 'The Starving Majority''. Aarhus, Denmark.
64. Mills, H. J., **D. Akob**, K. Chin, L. Kerkhof and J. E. Kostka. 2007. Structure and function of microbial communities in radionuclide contaminated subsurface sediments. International Workshop on Microbial Life under Extreme Energy Limitations 'The Starving Majority''. Aarhus, Denmark.
65. **Akob, D. M.**, H. J. Mills, L. Kerkhof, and J. E. Kostka. 2007. Determination of the metabolically active microbial groups in contaminated ORFRC subsurface sediments using stable isotope probing (SIP). DOE 2st Annual ERSP Spring PI Meeting, Lansdowne, VA.
66. Palumbo, A. V., C. W. Schadt, C. C. Brandt, M. S. McNeilly, A. S. Madden, H. J. Mills, **D. M. Akob**, J. R. Tarver, L. A. Fagan, S. Bottomly, S. M. Pfiffner, and J. E. Kostka 2006. Methanol Stimulated Uranium Reduction: Does Community Heterogeneity Matter? Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract B54B-02.
67. **Akob, D. M.**, H. J. Mills, L. Kerkhof, and J. E. Kostka. 2006. Determination of the metabolically active microbial groups in contaminated ORFRC subsurface sediments using stable isotope probing (SIP). DOE ERSP Fall PI Meeting, Oak Ridge, TN.

68. Kostka, J., H. Mills, **D. Akob**, T. Gihring, L. Kerkhof, K. Chin, J. Stucki, and B. Goodman. 2006. Biostimulation of iron reduction and uranium immobilization: microbial and mineralogical controls. DOE ERSP Fall PI Meeting, Oak Ridge, TN.
69. Palumbo, A., C. Schadt, C. Brandt, M. McNeilly, A. Madden, H. Mills, **D. Akob**, L. Fagan, S. Bottomly, S. Pfiffner and J. Kostka. 2006. An Integrated Assessment of Geochemical and Community Structure Determinants of Metal Reduction Rates in Subsurface Sediments. DOE ERSP Fall PI Meeting, Oak Ridge, TN.
70. Mills, H. J., **D. Akob**, E. Hunter, S. Winch, L. Kerkhof, K.-J. Chin, and J. E. Kostka, 2006. Molecular analysis of understudied microbial communities in subsurface and permeable sandy sediments. Integrated Ocean Drilling Program/ Joint Oceanographic Institutes Workshop on Subseafloor Life, Vancouver, BC, Canada.
71. **Akob, D. M.**, H. J. Mills, T. M. Gihring, L. Kerkhof, and J. E. Kostka. 2006. Structure and function of metal- and nitrate-reducing microbial communities in subsurface sediments contaminated with radionuclides. 106th General Meeting Abstracts American Society for Microbiology, Orlando, FL.
72. Palumbo, A. V., C. C. Brandt, S. M. Pfiffner, L. A. Fagan, A. S. Madden, T. Phelps, J. C. Schryver, M. S. McNeilly, C. W. Schadt, J. R. Tarver, S. Bottomly, H. J. Mills, **D. M. Akob**, J. E. Kostka. 2006. Influence of Geochemistry and Microbial Community Structure on Metal Reduction Rates. DOE 1st Annual ERSP PI Meeting, Warrenton, VA.
73. Kostka, J. E., H. J. Mills, **D. M. Akob**, T. Gihring, J. W. Stucki, B. A. Goodman, and L. Kerkhof. 2006. Biostimulation of iron reduction and uranium immobilization: Microbial and mineralogical controls. DOE 1st Annual ERSP PI Meeting, Warrenton, VA.
74. **Akob, D. M.**, H. J. Mills, L. Kerkhof, T. M. Gihring, and J. E. Kostka. 2006. Structure and function of metal- and nitrate-reducing microbial communities in the FRC subsurface. DOE 1st Annual ERSP PI Meeting, Warrenton, VA.
75. **Akob, D. M.**, T. M. Gihring and J. E. Kostka. 2005. Microbial activity and community composition in microcosms of FRC Area 2 uranium contaminated subsurface sediment and groundwater. DOE NABIR Oak Ridge Field Research Center Workshop, Oak Ridge, TN.
76. Mills, H. J., **D. M. Akob**, L. Petrie-Edwards, T. M. Gihring, and J. E. Kostka. 2005. Metabolically-active microbial communities in acidic uranium-contaminated subsurface sediments. DOE NABIR Oak Ridge Field Research Center Workshop, Oak Ridge, TN.
77. Mills, H. J., **D. M. Akob**, L. Petrie-Edwards, T. M. Gihring, and J. E. Kostka. 2005. Metabolically active microbial communities in acidic uranium-contaminated subsurface sediments. EC/US Taskforce on Biotechnology and Bioremediation 10th year anniversary meeting. Brussels, Belgium.
78. Gihring, T. M., L., Edwards, M. E. Dollhopf, **D. M. Akob**, and J.E. Kostka. 2005. The isolation and characterization of novel, metal-reducing microorganisms from uranium- and nitrate- contaminated subsurface sediments. 105th General Meeting Abstracts American Society for Microbiology, Atlanta, GA.
79. **Akob, D. M.**, H. J. Mills, L. Petrie-Edwards, and J. E. Kostka. 2005. The “active” microbial communities found in acidic uranium-contaminated subsurface sediments. 105th General Meeting Abstracts American Society for Microbiology, Atlanta, GA.
80. **Akob, D. M.**, H. J. Mills, L. Petrie-Edwards, D. L. Balkwill and J. E. Kostka. 2005. Metabolically active microbial communities in acidic uranium-contaminated subsurface sediments. DOE NABIR PI Meeting, Warrenton, VA.

81. **Akob, D. M.**, M. L. Fogel, and M. J. Wooller. 2003. Determining the diet of mangrove invertebrates using stable isotope analysis. Marine Benthic Ecology Meeting, Groton, CT
82. **Akob, D. M.** and I. C. Feller. 2002. The role of epibiont sponges and their microbial symbionts in nutrient limited *Rhizophora mangle* stands. 6th International Sponge Conference, Rapallo, Italy.
83. Diaz, M. C., **D. Akob**, and C. S. Cary. 2004. Denaturing gradient gel electrophoresis of nitrifying microbes associated with tropical sponges. 6th International Sponge Conference, Rapallo, Italy.
84. **Akob, D. M.** and I. C. Feller. 2002. The role of epibiont sponges and their microbial symbionts in the nutrient limited *Rhizophora mangle* stands. AGU/ ASLO Ocean Sciences Meeting, Honolulu, HI, *Invited*.

INVITED SEMINARS

Unconventional Oil and Gas Wastewater Impoundment Leaks and Spills: A Combined Field and Laboratory Study of Biogeochemical Processes. University of Maryland, October 21, 2015.

Unconventional Oil and Gas Wastewater Impoundment Leaks and Spills: A Combined Field and Laboratory Study of Biogeochemical Processes. 2015 Water Mission Area Lecture Series, Water Science Center visits: Pennsylvania, August 5; Virginia-West Virginia, September 30; Oklahoma, October 5; North Dakota, October 8; North Carolina, December 8; Ohio, December 16; Michigan, December 18.

Unconventional Oil and Gas Wastewater Impoundment Leaks and Spills: A Combined Field and Laboratory Study of Biogeochemical Processes. Oklahoma State University, October 6, 2015.

Unconventional Oil and Gas Wastewater Impoundment Leaks and Spills: A Combined Field and Laboratory Study of Biogeochemical Processes. University of Richmond, September 28, 2015.

Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. Maryland Water Science Center, March 4, 2015.

Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. Rutgers University, February 18, 2015.

Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. New Jersey Water Science Center, February 17, 2015.

Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. Bryn Mawr College, February 13, 2015.

Organic Composition and Microbiology of Produced Waters from Pennsylvania Shale Gas Wells. Leetown Science Center. April 23, 2014.

Organic Composition and Microbiology of Produced Waters from Pennsylvania Shale Gas Wells. Eastern Energy Resources Science Center: Energy Synergy Seminar. March 4, 2014.

Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. EPA Interagency Hydraulic Fracking Webinar, February 25, 2014.

Organic composition and microbiology of produced waters from Pennsylvania shale gas wells. Pennsylvania Water Science Center, January 18, 2014.

Linking Mn(II) oxidizing bacteria to the fate of Cold War Era heavy metal contamination. USGS Michigan Water Science Center, December 2, 2013.

Linking microbes to the fate of Cold War Era heavy metal contamination. USGS National Research Program-Central Branch, October 31, 2013.

Linking microbes to the fate of Cold War Era heavy metal contamination. Dartmouth College, Department of Earth Sciences, April 19, 2013.

Linking microbes to the fate of Cold War Era heavy metal contamination. USGS National Research Program-Western Branch, February 22, 2013.

Linking microbes to the fate of Cold War Era heavy metal contamination. Montana State University, Center for Biofilm Engineering, February 14, 2013.

Linking Mn(II) oxidizing bacteria to natural attenuation at a former U mine. Geological Society of Washington 1469th Meeting, January 23, 2013.

Microbes and natural attenuation of heavy metal contaminants. Smithsonian Institution, National Museum of Natural History, Department of Mineral Sciences. January 4, 2012.

Structure and Function of Microbial Communities in Uranium Contaminated Subsurface Sediments. Friedrich-Schiller University Jena, Microbe-Mineral Interactions Graduate School, January 2009.

Cold War Biogeochemistry: Nuclear Legacy Waste in the Subsurface of Former East Germany. Florida State University, Department of Biology, Ecology and Evolution Research and Discussion Group. October 2007.

Structure and Function of Microbial Communities in Uranium Contaminated Subsurface Sediments. Friedrich-Schiller University Jena, Institute for Ecology, June 2007.

OTHER PUBLICATIONS

"Life for microbial specialists in the poisonous breath of sleeping volcanoes." *ScienceDaily*. www.sciencedaily.com/releases/2015/04/150401084337.htm (accessed April 8, 2015). *Press release article on Beulig et al. 2015 ISME J paper*.

"The Chemistry of Waters that Follow from Fracking: A Case Study." *Press release article on Akob et al. 2015 Applied Geochemistry paper*. (Picked up by 10 news organizations).

"Microbiology and Chemistry of Waters Produced from Hydraulic Fracking--A Case Study." *USGS Toxic Substances Hydrology Program Headline on Akob et al. 2015 Applied Geochemistry paper*. http://toxics.usgs.gov/highlights/2015-06-17-chem_produced_waters.html

PATENTS

"Enhancing Microbial Natural Gas Production from Coal Using Coal Oxidation and Selective Stimulation." Inventors: W. H. Orem, E. J. P. Jones, A. C. Clark, L. F. Ruppert, E. Barnhart, and D. M. Akob. Report of invention submitted July 2015.

TEACHING & STUDENT MENTORSHIP

Instructor

Friedrich Schiller University Jena

Practical Course in Geomicrobiology (MBGW2.2.3)
Geomicrobiology of the Iron Cycle
GRK Geomicrobiology

Summer 2009
Winter 2009, 2010
March 2014 (invited)

Teaching Assistant

Florida State University		
BSC 2010L	Biological Science I Laboratory	Fall 2002, Spring 2003
BSC 2011L	Animal Diversity Laboratory	Fall 2003, Spring 2004
St. Mary's College of Maryland		
BIOL 111L	Principles of Biology I	Fall 1999, Spring 2000
BIOL 485	Tropical Marine Biology	Spring 2002

Student Mentorship

US Geological Survey
Jean Michael Chanchu (Volunteer for Science 2013; student contractor 2014)
Christian Go (summer intern 2013)
Bryan Saldana (Volunteer for Science 2014)
Benedita Pinto (Volunteer for Science 2014)
Eric Tang (Flint Hill High School intern 2014)
Melissa Harrington (NAGT intern 2014)
J. Grace Klinges (Volunteer for Science 2014, student contractor 2014-2015,
Haverford senior thesis 2014-2015, Hydrology Field Assistant 2015)
Andrea Fraser (Volunteer for Science 2014, student contractor 2014-2015)
Yoona Jun (Volunteer for Science 2014, student contractor 2015)
Matthew Olson (NAGT intern 2015)
Hannah Backman (Biology Field Assistant 2015)

George Mason University
Nate Dougan, PhD student 2013-present; committee member

Dartmouth College
Bingjie Ouyang, PhD candidate 2013-present; committee member

Friedrich Schiller University Jena (co-supervised with Dr. Kirsten Küsel)
Felix Beulig, Ph.D. student (2011-current)
Tsing Bo Hu, Ph.D. student (2011-current)
Shipeng Lu, Ph.D. student (2008-2012)
Andrea Beyer, master's student (2009-2010)
Felix Beulig, master's student (2009-2010)
Ulrike Litzba, bachelor's student (2009)
Andreas Fisher, bachelor's student (2009)

OUTREACH

Saturday at the Sea, Environmental Education at Florida State University, 2003

Educator at the Gulf Specimens Marine Laboratory, Inc., 2003

Guest lecturer: Ecology and Evolution (BIOL115) at University of North Carolina Asheville,
September 19, 2013.

Guest lecturer: Ecological Sustainability at George Mason University, February 28, 2013

Host for Mad Science Fieldtrip for 30 Reston Children's Center preschoolers at the USGS, 2014.

Panelist for the “Girls in STEM career encouragement program” for the AAUW Falls Church Branch Meeting September 8, 2014.

Presenter for Space Special Day at Reston Children’s Center (2 visits, total of 150 preschool and kindergarten students), November 2014.

Interview for JASON Learning Live STEM Role Model Q&A, <http://www.jason.org/live/stem-career-qa-denise-akob-microbiologist>, May 15, 2014.

Presented for Mad Science Special Day at Reston Children’s Center (2 visits, total of 150 preschool and kindergarten students), February 2015.

Presenter at AAUW STEMtastics Workshop for Middle School Girls, March 21, 2015

Panelist on STEM careers at the 8th Annual Louis Stokes Alliance for Minority Participation (LSAMP) Program symposium, George Mason University, March 29, 2015.

Scientist at Science Camp, a USGS-Reston Association summer camp (5 groups of 12 students ranging in age of 8-12 years old), July 20-July 24, 2015.

Guest lecturer for Astrobiology at University of Richmond, September 29, 2015

Podcast Interview for “Rock Your Research”, <http://www.rockyourresearch.com/>, January 4, 2016

Provided a lab tour of the Reston Microbiology Lab for 18 Langston Hughes Middle School students as part of the White House’s My Brother’s Keeper “Day at the Lab/African American Month” national events. Highlighted in the March 4, 2016 edition of "This Week at Interior" (https://www.youtube.com/watch?v=GwBRp_MY2R4&feature=youtu.be) and the Fairfax Times (http://www.fairfaxtimes.com/articles/fairfax_county/langston-hughes-students-visit-usgs-national-center-labs/article_fe60cb56-e24b-11e5-b891-53ba305adb27.html).

Provided a lab tour of the Reston Microbiology Lab for Take Your Daughters and Sons to Work Day, April 28, 2016.